

CLAIMS

What is claimed is:

1. A motor assembly having improved electromagnetic noise filtering and dissipation for a vehicle, said assembly comprising:

5 a motor having at least two terminals extending therefrom for connecting to a power source;

a carrier having an upper surface and a lower surface with an outer periphery defining apertures for receiving said terminals of said motor;

a first conductive region disposed on one of said upper and said lower
10 surfaces and adjacent one of said apertures for electrically connecting to one of said terminals;

a second conductive region disposed on one of said upper and said lower surfaces and adjacent said other of said apertures for electrically connecting to said other of said terminals;

15 a grounding region extending about said carrier on one of said upper and said lower surfaces for grounding said carrier;

a first non-conductive region insulating said first and said second conductive regions from said grounding region;

a circuit extending across said first non-conductive region electrically
20 connecting said first and said second conductive regions to said grounding region for filtering electromagnetic noise;

an electrical ground positioned adjacent to and electrically connected to said carrier; and

a biasing device urging said grounding region of said carrier into electrical connection with said electrical ground for dissipating electromagnetic noise generated by said motor to said electrical ground.

2. An assembly as set forth in claim 1 wherein said biasing device is further
5 defined as a grommet engaging said terminals maintaining said grounding region in contact with said electrical ground.

3. An assembly as set forth in claim 2 wherein said grommet is further defined as frictionally engaging said terminals.

4. An assembly as set forth in claim 1 wherein said biasing device is further
10 defined as said outer periphery having threads and said electrical ground being threaded for receiving said outer periphery for maintaining said grounding region in contact therewith.

5. An assembly as set forth in claim 1 wherein said biasing device is further
15 defined as a spring engaging said carrier to maintain said grounding region in contact with said electrical ground.

6. An assembly as set forth in claim 1 further including a mounting region defined between said outer periphery and said apertures for locating said circuit in said mounting region spaced from said aperture.

7. An assembly as set forth in claim 1 wherein said terminals are further
20 defined as including tabs extending from said terminals for electrically connecting to said first and said second conductive regions.

8. An assembly as set forth in claim 1 wherein said carrier is further defined as having said grounding region on said upper surface and having said first and said

second conductive regions, said first non-conductive region, and said circuit on said lower surface.

9. An assembly as set forth in claim 1 wherein said carrier is further defined as having said first and said second conductive regions and said first non-conductive region on both of said upper and said lower surfaces and having said grounding region on said upper surface and said circuit on said lower surface.

10. An assembly as set forth in claim 1 further including receptacles engaging said apertures electrically connected to said first and said second conductive regions and receiving said terminals to electrically connect said terminals to said first and said second conductive regions.

11. An assembly as set forth in claim 1 wherein said grounding region is further defined as extending at least partially around said outer periphery.

12. An assembly as set forth in claim 1 wherein said electrical ground is further defined as a housing of a control unit of the vehicle.

13. An assembly as set forth in claim 13 wherein said housing is further defined as being formed of a conductive material.

14. A motor assembly having improved electromagnetic noise filtering and dissipation for a vehicle, said assembly comprising:

a motor having at least two terminals extending therefrom for connecting to a power source;

5 a carrier having an upper surface and a lower surface with an outer periphery defining apertures for receiving said terminals of said motor;

a first conductive region disposed on one of said upper and said lower surfaces and adjacent one of said apertures for electrically connecting to one of said terminals;

10 a second conductive region disposed on one of said upper and said lower surfaces and adjacent said other of said apertures for electrically connecting to said other of said terminals;

a grounding region on one of said upper and said lower surfaces for grounding said carrier;

15 a first non-conductive region insulating said first and said second conductive regions from said grounding region;

a circuit extending across said first non-conductive region electrically connecting said first and said second conductive regions to said grounding region for filtering electromagnetic noise;

20 an electrical ground positioned adjacent to and electrically connected to said carrier; and

receptacles supported by said carrier electrically connected to said first and said second conductive regions for receiving said terminals.

15. An assembly as set forth in claim 14 wherein said receptacles include tangs within said receptacles for electrically connecting said terminals to said receptacles.

16. An assembly as set forth in claim 15 wherein said tangs are further defined as being biased outwardly against said terminals to frictionally secure said terminals
5 in said receptacles.

17. An assembly as set forth in claim 15 wherein said tangs are further defined as having a surface area being coextensive with said terminals to allow for maximum filtering and dissipation of electromagnetic noise.

18. An assembly as set forth in claim 14 further including projections extending
10 from said receptacles engaging said first and said second conductive regions for establishing said electrical connection.

19. An assembly as set forth in claim 18 wherein said projections extend through said carrier.

20. An assembly as set forth in claim 18 wherein said projections extend in
15 abutting engagement with said apertures.

21. An assembly as set forth in claim 14 wherein said electrical ground is further defined as a housing of a control unit of the vehicle.

22. An assembly as set forth in claim 21 wherein said housing is further defined as being formed of a conductive material.

20 23. An assembly as set forth in claim 14 further including a mounting region defined between said outer periphery and said apertures for locating said circuit in said mounting region.

24. An assembly as set forth in claim 14 wherein said carrier is further defined as having said grounding region on said upper surface and having said first and said second conductive regions, said first non-conductive region, and said circuit on said lower surface.

5 25. An assembly as set forth in claim 14 wherein said carrier is further defined as having said first and said second conductive regions and said first non-conductive region on both of said upper and said lower surfaces and having said grounding region on said upper surface and said circuit on said lower surface.